ABSTRACT OF THE DISCLOSURE

A method for manufacturing molten iron including the steps of producing reducing material of mixed hot fine direct reduced iron and calcined additives, the reducing material being produced from multiple fluidized beds; charging the reducing material to at least one pair of roller presses; roll pressing the reducing material through the one pair of roller presses to produce continuous compacted material having protrusions formed on pressed surfaces; crushing the compacted material; charging the crushed compacted material to a coal packed bed; and supplying oxygen to the coal packed bed to manufacture molten iron, wherein in the producing compacted material, the compacted material is formed such that acute and obtuse angles are formed between a center line formed along a length of a cross section that is cut along a lengthwise direction perpendicular to an axial direction of the roller presses and connecting lines that connect grooves closest to each other across the cross sectional area. An apparatus for manufacturing molten iron performs the inventive method for manufacturing molten iron. The processes involved in manufacturing molten iron using the invention are convenient, efficient, improve productivity, and allow for more flexibility with respect to equipment operation during the manufacture of compacted material.